



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

October 30, 2006

Virginia Electric and Power Company
ATTN.: Mr. David A. Christian
Sr. Vice President and
Chief Nuclear Officer
Innsbrook Technical Center - 2SW
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

**SUBJECT: NORTH ANNA POWER STATION - NRC INTEGRATED INSPECTION
REPORT NOS. 05000338/2006004 AND 05000339/2006004**

Dear Mr. Christian:

On September 30, 2006, the United States Nuclear Regulatory Commission (NRC) completed an inspection at your North Anna Power Station, Units 1 and 2. The enclosed integrated inspection report documents the inspection findings, which were discussed on October 10, 2006, with Mr. Larry Lane and other members of your staff.

The inspections examined activities conducted under your licenses as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your licenses. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based upon the results of this inspection, one NRC identified finding of very low safety significance (Green) was identified. This was determined to involve a violation of NRC requirements. However, because of its very low safety significance, and because it was entered into your corrective action program, the NRC is treating this finding as a non-cited violation (NCVs) consistent with Section VI.A of the NRC Enforcement Policy. In addition, one licensee-identified violation, which was determined to be of very low safety significance (Green), is listed in Section 4OA7 of this report. If you contest any non-cited violation in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the United States Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the North Anna Power Station.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, if any, will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Eugene F. Guthrie, Chief
Reactor Projects Branch 5
Division of Reactor Projects

Docket Nos.: 50-338, 50-339
License Nos.: NPF-4, NPF-7

Enclosures: Inspection Reports 05000338/2006004 and 05000339/2006004

cc w/encl: (See page 3)

VEPCO

2

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, if any, will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Eugene F. Guthrie, Chief
Reactor Projects Branch 5
Division of Reactor Projects

Docket Nos.: 50-338, 50-339
License Nos.: NPF-4, NPF-7

Enclosures: Inspection Reports 05000338/2006004 and 05000339/2006004

cc w/encl: (See page 3)

☐ PUBLICLY AVAILABLE ☐ NON-PUBLICLY AVAILABLE ☐ SENSITIVE ☐ NON-SENSITIVE
ADAMS: ☐ Yes ACCESSION NUMBER: _____

OFFICE	RII:DRP	RII:DRP	RII:DRP	RII:DRS	RII:DRS	RII:DRS	RII:DRS
SIGNATURE	JTR	GJW	LXG1				
NAME	JReece	GWilson	LGarner				
DATE	10/30/2006	10/30/2006	10/30/2006				
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY

DOCUMENT NAME: C:\FileNet\ML063030486.wpd

VEPCO

3

cc w/encl:

Chris L. Funderburk, Director
Nuclear Licensing and
Operations Support
Virginia Electric and Power Company
Electronic Mail Distribution

Jack M. Davis
Site Vice President
North Anna Power Station
Electronic Mail Distribution

Executive Vice President
Old Dominion Electric Cooperative
Electronic Mail Distribution

County Administrator
Louisa County
P. O. Box 160
Louisa, VA 23093

Lillian M. Cuoco, Esq.
Senior Counsel
Dominion Resources Services, Inc.
Electronic Mail Distribution

Attorney General
Supreme Court Building
900 East Main Street
Richmond, VA 23219

Distribution w/encl: (See page 4)

VEPCO

4

Report to D. A. Christian from Eugene F. Guthrie dated October 30, 2006

SUBJECT: NORTH ANNA POWER STATION - NRC INTEGRATED INSPECTION
REPORT NOS. 05000338/2006004 AND 05000339/2006004

Distribution w/encls.:

S. Lingam, NRR

L. Slack, RII

RIDSNRRDIRS

PUBLIC

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-338, 50-339

License Nos.: NPF-4, NPF-7

Report Nos.: 05000338/2006004, 05000339/2006004

Licensee: Virginia Electric and Power Company (VEPCO)

Facilities: North Anna Power Station, Units 1 & 2

Location: 1022 Haley Drive
Mineral, Virginia 23117

Dates: July 1, 2006 through September 30, 2006

Inspectors: J. Reece, Senior Resident Inspector
G. Wilson, Resident Inspector

Approved by: E. Guthrie, Chief, Reactor Projects Branch 5
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000338/2006-004, IR 05000339/2006-004; 07/01/2006 - 09/30/2006; North Anna Power Station Units 1 and 2; Adverse Weather Protection..

The report covered a three-month period of inspection by the resident inspectors. One NRC identified Green non-cited violation was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

Green. A non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion III was identified by the NRC on July 10, 2006, for the failure to adequately protect auxiliary feedwater (AFW) components from tornado generated missiles. The licensee installed a modification to protect some of the identified components and is planning to modify their design basis to address the remaining components.

The failure to assure adequate tornado missile protection had a credible impact on reactor safety because of the exposure of all three trains or subsystems of the AFW system to tornado induced damage. The finding is more than minor due to its impact on the Mitigating System cornerstone and the related attribute of design control. A phase III evaluation concluded that the finding was of very low safety significance given that the facility is located in a part of the country with a low incidence of tornados, i.e., the initiating event frequency for a tornado is low, and systems other than AFW are available to help mitigate the event. (Section 1R01)

B. Licensee-Identified Violation

One violation of very low safety significance was identified by the licensee, and has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and the corrective action tracking number are listed in Section 4OA7 of this report.

Enclosure

REPORT DETAILS

Summary of Plant Status

Unit 1 and Unit 2 began the inspection period at 100 percent rated thermal power (RTP), and remained at or near 100 percent RTP for the entire reporting period except for minor power reductions to perform required periodic testing.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

The inspectors performed two site specific weather related inspections due to anticipated adverse weather conditions. During July, 2006, the licensee entered abnormal procedure, AP-41, "Severe Weather Conditions," three times for adverse weather forecasts. The inspectors performed a walkdown on July 10, 2006, of station structures, systems and components (SSCs) to evaluate overall preparations and conformance to established station design basis. On September 1, 2006, the inspectors reviewed the licensee response to tropical depression Ernesto which was expected to bring heavy winds and rains to the area.

Documents reviewed included:

- Drawing 11715-FM-070A sheet 3 of 3, Main Steam System
- STD-GN-0003, "Standard for Determining the Safety Classification of Structures, Systems and Components"
- Q-List for component "6.00-SAE-5-121"

b. Findings

Introduction: The NRC identified a Green, non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion III, for the failure to adequately protect auxiliary feedwater (AFW) components from tornado generated missiles.

Description: The licensee's Updated Final Safety Evaluation Report (UFSAR) Table 3.2-1, "Structures, Systems, and Components That Are Designed to Seismic and Tornado Criteria," indicates that the AFW pump house, AFW pumps, and AFW piping, valves and supports from AFW pumps to steam generator feed lines will not fail during the design tornado. On July 10, 2006, the inspectors identified a vulnerability regarding adequate tornado protection of AFW components, consisting of piping headers, conduit and instrument lines, for the turbine driven AFW and both trains of the motor driven AFW subsystems on both units. Tornado generated missiles on an angular path through the AFW pump house intake ventilation opening would impact these components. Part of the ventilation opening is protected by an existing concrete overhang which prevents damage from missiles approaching the opening from

Enclosure

horizontal paths. The licensee initiated Plant Issues N-2006-3681 and N-2006-3734 to evaluate the condition and to perform extent of condition reviews. Subsequently, the inspectors identified that the turbine driven AFW steam exhaust piping external to the AFW pump houses were not missile protected. As immediate actions to address missile damage, the licensee established compensatory measures consisting of declaring both Units 1 and 2 AFW systems inoperable and taking the appropriate Technical Specifications (TS) action conditions when abnormal procedure, AP-41, "Severe Weather Conditions," is entered. AP-41 is entered with the declaration of a tornado warning condition or hurricane force winds projected on site within 12 hours or sustained wind speed in excess of 73 mph. To address angular missiles, the licensee subsequently initiated an emergent modification, design change package DCP 06-139, to install safety related steel plates to protect the vulnerable areas. For the steam exhaust line, the licensee initiated Plant Issue N-2006-3838 for corrective action. Furthermore, compensatory measures remained in effect until a permanent resolution is implemented. Presently they plan to pursue a risk evaluation using the TORMIS methodology to leave the steam exhaust piping as installed.

Analysis: The failure to assure adequate tornado missile protection had a credible impact on reactor safety because of the exposure of all three trains or subsystems of the AFW system to tornado induced damage. The inspectors reviewed Inspection Manual Chapter (IMC) 0612 and determined that the finding is more than minor due to its impact on the Mitigating System cornerstone and the related attribute of design control. The inspectors performed a Significance Determination Process (SDP) review as required by IMC 0609 and determined that a phase III evaluation was required for findings involving severe weather events. The subsequent evaluation and review by Senior Risk Analysts resulted in a finding of very low safety significance given that the facility is located in a part of the country with a low incidence of tornados, i.e., the initiating event frequency for a tornado is low, and systems other than auxiliary feedwater are available to help mitigate the event.

Enforcement: 10 CFR 50 Appendix B, Criterion III states in part that measures shall be established to assure that applicable regulatory requirements and the design basis for those structures, systems, and components to which this appendix applies are correctly translated into specifications and drawings. Contrary to the above, on July 10, 2006, the NRC identified that the licensee failed to establish the appropriate tornado missile protection requirements into specifications and drawings that would result in structures adequately protecting AFW components. This finding is of very low safety significance and is in the licensee's corrective action program as Plant Issues N-2006-3681, N-2006-3734, and N-2006-3838. Therefore, this violation is characterized as an NCV, consistent with Section VI.A of the NRC Enforcement Policy, and is identified as NCV 05000338, 339/2006004-01, Inadequate Tornado Missile Protection for the AFW System.

Enclosure

1R04 Equipment Alignment

a. Inspection Scope

The inspectors conducted four partial equipment alignment walkdowns to evaluate the operability of selected redundant trains or backup systems, listed below, with the other train or system inoperable or out of service. The inspectors reviewed the functional system descriptions, UFSAR, system operating procedures, and TS to determine correct system lineups for the current plant conditions. The inspectors performed walkdowns of the systems to verify that critical components were properly aligned and to identify any discrepancies which could affect operability of the redundant train or backup system.

- Unit 2 "B" AFW pump while completing planned maintenance on "A" AFW pump;
- Unit 2 "A" AFW pump while completing planned maintenance on the "B" AFW system;
- Unit 1 "A" Outside Recirculation System (RS) pump during planned maintenance on the "B" Outside RS pump motor; and,
- Unit 1 "H" Emergency Diesel Generator (EDG) during planned maintenance on the "J" EDG.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors conducted tours of the nine areas listed below and important to reactor safety to verify the licensee's implementation of fire protection requirements as described in Virginia Power Administrative Procedure (VPAP)-2401, "Fire Protection Program." The inspectors evaluated, as appropriate, conditions related to: (1) licensee control of transient combustibles and ignition sources; (2) the material condition, operational status, and operational lineup of fire protection systems, equipment, and features; and (3) the fire barriers used to prevent fire damage or fire propagation.

- Cable Vault and Tunnel Unit 2 (includes Control Rod Drive Room and Z-27-1) (fire zone 3-2a / CV & T-2);
- Turbine-Driven Auxiliary Feedwater Pump Room Unit 1 (fire zone 14A-1a / TDAFW-1);
- Turbine-Driven Auxiliary Feedwater Pump Room Unit 2 (fire zone 14A-2a / TDAFW-2);
- Motor-Driven Auxiliary Feedwater Pump Room Unit 2 (fire zone 14B-2a / MDAFW-2);
- Quench Spray Pump House and Safeguards Area Unit 2 (includes Z-16-2) (fire zone 15-2a / OSPH-2);

Enclosure

- Main and Station Service Transformers (fire zone Z-8C / XFMRs);
- Alternate AC Building (fire zone Z-52 / AAC);
- Cable Vault and Tunnel Unit 1 (includes Control Rod Drive Room and Z-27-1) (fire zone 3-1a / CV & T-1); and,
- Cable Tray Spreading Room Unit 1 and Unit 2 (fire zones 4-1b / CSR-1 and 4-2b / CSR-2).

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

a. Inspection Scope

The inspectors reviewed licensee flood analysis documents to identify design features important to external flood protection and areas that can be affected by flooding; design flood levels; and protection features for areas containing safety-related equipment such as such as dikes, culverts and storm drains. The inspectors reviewed external flood protection measures (emergency dike) associated with Unit 1 and Unit 2 from a breach in the Service Water reservoir and the flood protection dike west of the service building. Flooding from these areas could impact risk-significant components in the Auxiliary Building and Safeguards Building. The inspectors also reviewed the licensee's corrective action database for problem reports related to external flood protection measures.

Documents reviewed included:

- UFSAR Section 3.8.4, "Service Water Reservoir and Pump House"
- 0-AP-40, "Abnormal Level in North Anna Reservoir"

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program

a. Inspection Scope

The inspectors observed an annual licensed operator requalification simulator examination on July 25, 2006. The scenario, Simulator Examination Guide SXG-63, involved a pre-existing fuel failure, a loss of the "J" 4160V Emergency Bus and related oil spill on the "A" Reserved Station Service transformer (RSST), a loss of cooling accident (LOCA) with failure of injection from the boron injection tank, and a tube leak on the "D" RS Heat Exchanger. The inspectors observed crew performance in terms of communications; ability to take timely and proper actions; prioritizing, interpreting, and verifying alarms; correct use and implementation of procedures, including the alarm

Enclosure

response procedures; timely control board operation and manipulation, including high-risk operator actions; and oversight and direction provided by the shift supervisor, including the ability to identify and implement appropriate TS actions. The inspectors observed the post training critique to determine that weaknesses or improvement areas revealed by the training were captured by the instructors and reviewed with the operators.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

For the two equipment issues listed below, the inspectors evaluated the licensee's effectiveness of the corresponding preventive and corrective maintenance. The inspectors performed walkdowns of the accessible portions of the systems, performed in-office reviews of procedures and evaluations, and held discussions with system engineers. The inspectors compared the licensee's actions with the requirements of the Maintenance Rule (10 CFR 50.65) using VPAP 0815, "Maintenance Rule Program," and Engineering Transmittal CEP-97-0018, "North Anna Maintenance Rule Scoping and Performance Criteria Matrix."

- Maintenance issues concerning seal leakage on the Unit 2 "C" charging pump after the installation of new mechanical seals associated with Plant Issues N-2006-3292, N-2006-4099 and N-2006-2533
- Maintenance issue involving a small candle fire on the Unit 2 "H" EDG due to performing a hot torque of EDG manifold bolts as part of Condition Report CR001693.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors evaluated, as appropriate, for the six activities listed below: (1) the effectiveness of the risk assessments performed before maintenance activities were conducted; (2) the management of risk; (3) that, upon identification of an unforeseen situation, necessary steps were taken to plan and control the resulting emergent work activities; and (4) that maintenance risk assessments and emergent work problems were adequately identified and resolved. The inspectors verified that the licensee was complying with the requirements of 10 CFR 50.65 (a)(4) and the data output from the licensee's safety monitor associated with the risk profile of Units 1 and 2.

Enclosure

- Emergent work associated with the failure of Unit 1 pressurizer pressure channel 1 in parallel with work associated with Unit 1 "A" main feedwater pump, 1-PT-82H, switchyard, instrumentation racks, and "C" RSST via overhead lines;
- Emergent work associated with failure of the intake dampers for Unit 1 cable spreading room supply fan resulting in high differential pressure across the door, 2-BLD-STR-S94-5, thereby preventing auto-closure. This rendered the cable spreading room inoperable. Planned work at the time of failure included Unit 2 "A" service water pump, instrumentation racks, and "C" RSST via overhead lines;
- Emergent work on vital charger 2-BY-C-2 and station blackout breaker 0-AAC-BKR-0SL3 during planned work involving Unit 2 "A" component cooling water pump, "E" transfer bus breaker, "A" service water header, 1-PT-15.2, switchyard, instrumentation racks, and "C" RSST via overhead lines;
- Maintenance rule risk evaluation for Condition Report (CR) 000765, a Unit 2 chiller room rolling steel door was opened and a risk evaluation was not performed. A subsequent evaluation determined that the risk remained unchanged and it remained a green maintenance rule window;
- Emergent work on Unit 2 "A" outside RS pump during planned activities involving "4C" control room chiller, 2-PT-36.1B, switchyard, instrumentation racks, and "C" RSST via overhead lines; and,
- Emergency work on O-AAC-DG-0M during planned activities involving 2-PT-82J, switchyard, instrumentation racks, and "C" RSST via overhead lines.

b. Findings

No findings of significance were identified.

1R14 Operator Performance During Non-Routine Plant Evolutions and Events

a. Inspection Scope

For the following non-routine event, the inspectors reviewed operator logs and plant computer data to determine what occurred and how the operators responded, and to determine if the response was in accordance with plant procedures. On September 18, 2006, the inspectors reviewed a plant transient that occurred on Saturday, September 16, 2006, in which plant operators were taking actions to return Unit 2 to 100% power following a power reduction for testing. The inspectors verified that during this period of time on the day shift, the licensee exceeded 100% and did not take timely action to reduce power below the maximum power level. Specifically, power remained above 100% for approximately 2.5 hours reaching a peak of approximately 100.13%; however, actions to reduce power were not taken until approximately 85 minutes after exceeding 100% at a power level above 100.1%. During the turnover process of day shift to night shift the oncoming operators questioned the actions taken and involved licensee management for appropriate and timely corrective actions.

b. Findings

The enforcement aspects of this event are discussed in section 4OA7 of this report.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed seven operability evaluations affecting risk-significant mitigating systems, listed below, to assess, as appropriate: (1) the technical adequacy of the evaluations; (2) whether continued system operability was warranted; (3) whether other existing degraded conditions were considered as compensating measures; (4) whether the compensatory measures, if involved, were in place, would work as intended, and were appropriately controlled; (5) where continued operability was considered unjustified, the impact on TS Limiting Conditions for Operation and the risk significance in accordance with the SDP. The inspectors' review included a verification that the operability determinations were made as specified by Procedure VPAP-1408, "System Operability."

- Plant Issue N-2006-4054, during 0-PT-82.11, the following parameters were out of tolerance: jacket water temperature and fuel oil inlet temperature;
- Plant Issue N-2006-4358, snubber 1-MS-HSS-220B-SUPPORT-SHP was leaking approximately 1 drop per minute;
- Plant Issue N-2006-3753, in response to Plant Issue N-2006-3734, extent of condition walkdowns revealed that missile protection provided for SW pump house ventilation exhaust does not completely cover the ventilation opening;
- Condition Report CR000282, during performance testing of 2J EDG, one of the fourteen blower discharge elbow bolts became loose and dislodged from the flange connection;
- Condition Report CR001239, 2-RS-P-2A seal head tank level alarm was verified to be a high alarm and was also referenced on Plant Issue N-2005-2937;
- Plant Issue N-2006-4259, Seismic evaluation for NRC identified problem involving loose restraining bolt on the unistrut supporting safety related conduit for 1-FW-MOV-100D; and,
- Condition Report CR000941, Items brought up by the NRC in 2H EDG room; manifold bracket with non-engaged bolt, loose and missing brackets on electrical panels, and conduit not captured in support bracket at the generator end.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspectors reviewed six post maintenance test procedures and/or test activities, as appropriate, for selected risk-significant mitigating systems to assess whether: (1) the effect of testing on the plant had been adequately addressed by control room and/or engineering personnel; (2) testing was adequate for the maintenance performed; (3) acceptance criteria were clear and adequately demonstrated operational readiness consistent with design and licensing basis documents; (4) test instrumentation had current calibrations, range, and accuracy consistent with the application; (5) tests were performed as written with applicable prerequisites satisfied; (6) jumpers installed or leads lifted were properly controlled; (7) test equipment was removed following testing; and (8) equipment was returned to the status required to perform its safety function. The inspectors verified that these activities were performed in accordance with licensee procedure VPAP-2003, "Post Maintenance Testing Program."

- Procedure 2-PT-82.4B, "2J Diesel Generator Test (Start by ESF Actuation)," Revision 57, per Work Order (WO) 598680-09 to replace the #12 lower piston ring set;
- Procedure 1-PT-74.2B, "Component Cooling Pump 1-CC-P-1B Test," Revision 31, per WO 605396-02 to repair/replace inboard bearing lube oil;
- Procedure 1-PT-87F, "Intercell Connection Resistance Test for Battery 1J," Revision 4, per WO 745306-0 to replace Unit 1 "J" EDG battery cells 46, 47, and 48;
- Procedure 0-MPM-0102-02, "Motor Driven Auxiliary Feed Pumps Preventative Maintenance," Revision 1, per WOs 603768-01 and 736860-01 to clean and inspect the "A" AFW lube oil cooler and adjust the packing on the "A" AFW pump;
- Procedure 1-PT-64.4A, "Casing Cooling Pump (1-RS-P-3A) Test" per WO 734645 to change oil in pumps VTM 59-B731-C0003 Bingham types HS, HSA, HSB, HSL, HSM installations; and,
- Procedure 1-PT-77.11A, "Control Room Chiller 1-HV-E4B Pump and Valve Test," Revision 26, per WO 735758 to replace 1-HV-P-22B per design change package.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors witnessed six surveillance tests and/or reviewed test data of selected risk-significant SSCs, listed below, to assess, as appropriate, whether the SSCs met the requirements of the TS and UFSAR. The inspectors also determined whether the

Enclosure

testing effectively demonstrated that the SSCs were operationally ready and capable of performing their intended safety functions.

Inservice Tests:

- 1-PT-63.1A, "Quench Spray System 'A' Subsystem (1-QS-P-1A)," Revision 31;
- 1-PT-14.2, "Charging Pump 1-CH-P-1B," Revision 44.

Routine tests:

- 2-PT-84.1D, "Channel Calibration and Integrated System Functional Test of Protective Relays for Breaker 25H14," Revision 9;
- 1-PT-36Q, "AMSAC System Logic Test - Unit 1," Revision 9;
- 0-PT-4.1, "0-FH-DG-1 ISFSI Emergency Diesel Generator Test," Revision 5;
- 0-PT-82.11, "Quarterly Test of 0-AAC-DG-0M, Alternate AC Diesel Generator (SBO Diesel), on D Transfer Bus," Revision 14.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed a temporary modification that was installed as part of a planned maintenance procedure to verify that the modification did not affect system operability or availability as described by the TS and UFSAR. The temporary plant modification reviewed involved the installation of a jumper in cabinet EP-CB-28C between terminals 55 and 58 to disable the auto-close function of the Unit 2 1A reactor coolant pump thermal barrier component cooling outlet header trip valve, 2-CC-TV-216A, during the performance of corrective maintenance per WO 756215-01 to replace DC control card CA-534. The inspectors verified: that the installation of the temporary modification was in accordance with the work package; that adequate controls were in place; that procedures and drawings were updated; and, that post-installation tests verified the operability of the affected systems.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems

.1 Daily Review

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. This review was accomplished by reviewing daily Plant Issues summary reports and periodically attending daily Plant Issue Review Team meetings.

.2 Annual Sample Review

a. Inspection Scope

The inspectors reviewed the licensee's assessments and corrective actions for Plant Issue N-2006-4301, "Work order 734645-01 was performed on 1-RS-P-3A [Unit 1 casing cooling pump1] to change oil in the pump bearings. When Ops ran the PT the oil level in both bubblers went down out of the glass ball on the bubbler." The plant issue was reviewed to ensure that the full extent of the issue was identified, an appropriate evaluation was performed, and appropriate corrective actions were specified and prioritized. The inspectors also evaluated the plant issue against the requirements of the licensee's corrective action program as specified in VPAP-1601, "Corrective Action Program," VPAP-1501, "Deviations," and 10 CFR 50, Appendix B. Specifically, the inspectors reviewed the licensee's actions and evaluation, the associated vendor manual, Vendor manual, VTM 59-B731-C0003, "Bingham Types: HS, HSA, HSB, HSL, HSM Installation, Operation, Maintenance Instructions," and the work order package.

b. Findings and Observations

No findings of significance were identified. On August 8, 2006, during a post maintenance test (PMT) following preventative maintenance per work order 734645-01, operations personnel noted that oil level in the oil bubblers for 1-RS-P-3A (Casing Cooling Pump) was not indicated. The licensee initiated Plant Issue N-2006-4301, and maintenance subsequently determined that the oil reservoir vent was blocked which prevented the addition of an appropriate amount of oil. The licensee completed an extent of condition review which determined that this issue is limited to only this pump, and updated their 'model' work order to verify that pump bearing oil reservoir vents are unblocked when changing the oil on this pump in the future. Additional venting was available between the pump shaft and bearing housing since the pump incorporates an oil deflector plate to retain oil within the bearing housing.

The inspectors found that the work order did not reference a procedure to perform the maintenance. Instead the necessary steps were incorporated within the work package, which was created from a 'model' work order. The inspectors further reviewed the

Enclosure

licensee's process for creating and revising 'model' work orders and determined that it did not meet licensee quality assurance requirements (QA) since the 'model' work order generated a new work package without the necessary QA reviews. The inspectors concluded that the licensee's failure to have an adequate work order to properly replace the pump bearing oil for this circumstance had not effected pump operability since the pump was in maintenance status and had not been returned to operable status. The inspectors recognize that the maintenance 'model' work order process is part of their corrective action program. The licensee has initiated corrective action to review their maintenance work order process.

4OA6 Meetings, including Exit

On October 10, 2006, the senior resident inspector presented the inspection results to Mr. Larry Lane and other members of the staff. The licensee acknowledged the findings. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee-Identified Violation

The following finding of very low significance was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for characterization as an NCV.

Virginia Electric and Power Company, Old Dominion Electric Cooperative, Docket No. 50-339, North Anna Power Station, Unit No. 2, Renewed Facility Operating License No. NPF-7, section 2.C(1), Maximum Power Level, states, "VEPCO is authorized to operate the facility at steady state reactor core power levels not in excess of 2893 megawatts (thermal)." Contrary to the above, on September 16, 2006, during final power escalation to 100% on Unit 2 the licensee exceeded 100% and did not take timely action to reduce power below the maximum power level. Specifically, power remained above 100% for approximately 2.5 hours reaching a peak of approximately 100.13%; however, actions to reduce power were not taken until approximately 85 minutes after exceeding 100% at a power level above 100.1%. This issue is more than minor because it can be viewed as a precursor to a more significant event, in that, failure to properly monitor reactor power could result in operations outside design basis values. The inspectors reviewed IMCs 0612 and 0609 and determined that the finding was of very low safety significance given the peak power level attained. The licensee has this finding documented in their corrective action program as Condition Report CR001458.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

W. Anthes, Assistant Manager, Maintenance
J. Breeden, Supervisor, Radioactive Analysis and Material Control
W. Corbin, Director, Nuclear Engineering
J. Costello, Supervisor, Nuclear Emergency Preparedness (Virginia)
J. Crossman, Assistant Manager, Nuclear Operations
J. Davis, Site Vice President
R. Evans, Manager, Radiological Protection
R. Foster, Supply Chain Manager
S. Hughes, Manager, Nuclear Operations
P. Kemp, Supervisor, Nuclear Safety & Licensing
J. Kirkpatrick, Manager, Maintenance
L. Lane, Director, Operations and Maintenance
J. Leberstien, Licensing Technical Advisor
T. Maddy, Manager, Nuclear Protection Services
C. McClain, Manager, Organizational Effectiveness
F. Mladen, Manager, Nuclear Site Services
B. Morrison, Assistant Engineering Manager
J. Rayman, Emergency Planning Supervisor
H. Royal, Manager, Nuclear Training
G. Salomone, Licensing
M. Sartain, Manager, Nuclear Engineering
J. Scott, Supervisor, Nuclear Training (operations)
D. Stoddard, Director, Nuclear Safety and Licensing

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Open

None.

Opened and Closed

05000338, 339/2006004-01 NCV Inadequate Tornado Missile Protection for the AFW
System (Section 1R01)

Closed

None.

Discussed

None.